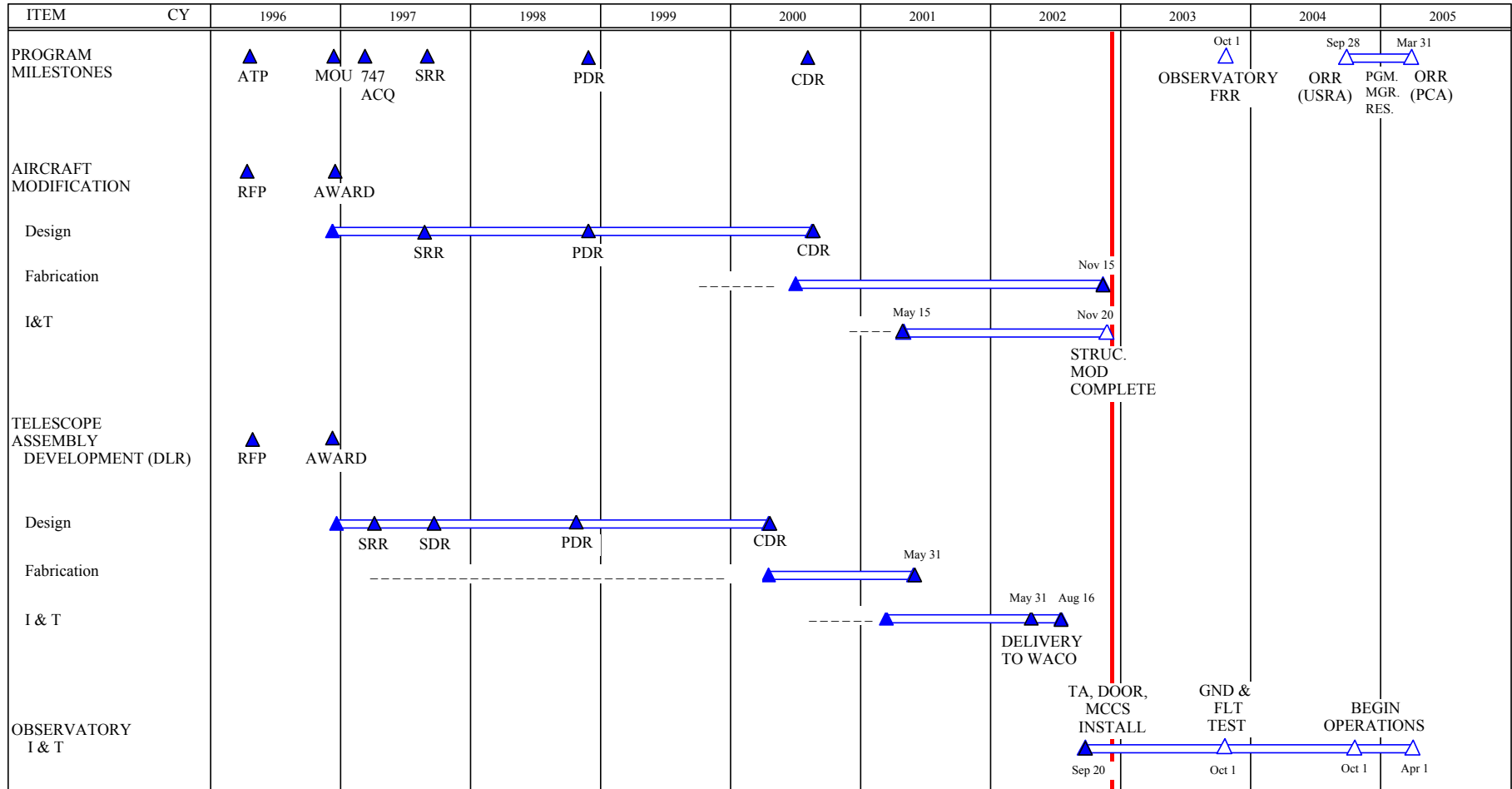


SOFIA Milestone Schedule

Completion of Aircraft Structural Modification

OSS Monthly Flight Program Review 12/19/02



Mars Exploration Rover

Project Status

OSS Monthly Flight Program Review 7/29/03

Spirit

- Spirit spacecraft successfully launched on June 10, 2003.
- Mars injection near perfect, with C3 error $< 0.1 \Sigma$, DLA error of -0.7Σ , and RLA error of $+1.2 \Sigma$
- Spacecraft successfully spun down to 2 rpm for remainder of cruise phase.
- Spirit TCM-1 successfully conducted June 21, increasing spacecraft velocity by 14.3 m/sec, followed by attitude maintenance turn. TCM-2 is scheduled for August 1.
- As of July 20, Spirit has traveled 109.6 M Km

Opportunity

- Opportunity spacecraft successfully launched on July 7, 2003.
- Mars injection near perfect, with C3 error $< 0.01 \Sigma$, DLA error $< -0.1 \Sigma$, and RLA error $+0.2 \Sigma$
- Spacecraft successfully spun down to 2 rpm for remainder of cruise phase.
- TCM-1 successfully conducted on July 18, increasing spacecraft velocity by 16.2 m/sec. TCM-2 is scheduled for Sept 8.
- As of July 20, Opportunity has traveled 34.2 M Km.



Spirit Launches - Jun 10, 2003



Opportunity Launches - Jul 07, 2003

2003 News Releases

NASA's 'Spirit' Rises on Its Way to Mars

June 10, 2003

Lift-off of Mars Exploration Rover

- A NASA robotic geologist named Spirit began its seven-month journey to Mars at 1:58:47 p.m. Eastern Daylight Time (10:58:47 a.m. Pacific Daylight Time) today when its Delta II launch vehicle thundered aloft from Cape Canaveral Air Force Station, Fla.
- The spacecraft, first of a twin pair in NASA's Mars Exploration Rover project, separated successfully from the Delta's third stage about 36 minutes after launch, while over the Indian Ocean. Flight controllers at NASA's Jet Propulsion Laboratory, Pasadena, Calif., received a signal from the spacecraft at 2:48 p.m. Eastern Daylight Time (11:48 a.m. Pacific Daylight Time) via the Canberra, Australia, antenna complex of NASA's Deep Space Network. All systems are operating as expected.
- Spirit will roam a landing area on Mars that bears evidence of a wet history. The rover will examine rocks and soil for clues to whether the site may have been a hospitable place for life. Spirit's twin, Opportunity, which is being prepared for launch as early as 12:38 a.m. Eastern Daylight Time June 25 (9:38 p.m. Pacific Daylight Time on June 24), will be targeted to a separate site with different signs of a watery past.
- "We have plenty of challenges ahead, but this launch went so well, we're delighted," said JPL's Pete Theisinger, project manager for the Mars Exploration Rover missions.
- The spacecraft's cruise-phase schedule before arriving at Mars next Jan. 4, Universal Time (Jan. 3 in Eastern and Pacific time zones), includes a series of tests and calibrations, plus six opportunities for maneuvers to adjust its trajectory. JPL, a division of the California Institute of Technology, Pasadena, manages the Mars Exploration Rover project for the NASA Office of Space Science, Washington, D.C.
- Information about the rovers and the scientific instruments they carry is available online from JPL at <http://mars.jpl.nasa.gov/mer> and from Cornell University, Ithaca, N.Y., at <http://athena.cornell.edu>.
- Contact: JPL/Veronica McGregor (818) 354-9452

Donald Savage (202) 358-1547
NASA Headquarters, Washington, D.C.

- 2003-084

2003 News Releases

Newly Launched 'Opportunity' Follows Mars-Bound 'Spirit'

July 7, 2003

Opportunity Mars Exploration Rover lifts off

- NASA launched its second Mars Exploration Rover, Opportunity, late Monday night aboard a Delta II launch vehicle whose bright glare briefly illuminated Florida Space Coast beaches.
- Opportunity's dash to Mars began with liftoff at 11:18:15 p.m. Eastern Daylight Time (8:18:15 p.m. Pacific Daylight Time) from Cape Canaveral Air Force Station, Fla.
- The spacecraft separated successfully from the Delta's third stage 83 minutes later, after it had been boosted out of Earth orbit and onto a course toward Mars. Flight controllers at NASA's Jet Propulsion Laboratory, Pasadena, Calif., received a signal from Opportunity at 12:43 a.m. Tuesday EDT (9:43 p.m. Monday PDT) via the Goldstone, Calif., antenna complex of NASA's Deep Space Network.
- All systems on the spacecraft are operating as expected, JPL's Richard Brace, Mars Exploration Rover deputy project manager, reported.
- "We have a major step behind us now," said Pete Theisinger, project manager. "There are still high-risk parts of this mission ahead of us, but we have two spacecraft on the way to Mars, and that's wonderful."
- NASA Associate Administrator for Space Science Dr. Ed Weiler said, "Opportunity joins Spirit and other Mars-bound missions from the European Space Agency, Japan and the United Kingdom, which together mark the most extensive exploration of another planet in history. This ambitious undertaking is an amazing feat for Planet Earth and the human spirit of exploration."
- As of early Tuesday, Opportunity's twin, Spirit, has traveled 77 million kilometers (48 million miles) since its launch on June 10 and is operating in good health.
- Opportunity is scheduled to arrive at a site on Mars called Meridiani Planum on Jan. 25, 2004, Universal Time (evening of Jan. 24, Eastern and Pacific times), three weeks after Spirit lands in a giant crater about halfway around the planet.
- NASA's Mars Global Surveyor orbiter has identified deposits at Meridiani Planum of a type of mineral that usually forms in wet environments. Both rovers will function as robotic geologists, examining rocks and soil for clues about whether past environments at their landing sites may have been hospitable to life.
- JPL is a division of the California Institute of Technology, Pasadena. It built the rovers and manages the Mars Exploration Rover project for the NASA Office of Space Science, Washington, D.C.
- Information about the rovers and the scientific instruments they carry is available online from JPL at <http://mars.jpl.nasa.gov/mer> and from Cornell University, Ithaca, N.Y., at <http://athena.cornell.edu>.
- Contact: JPL/Guy Webster (818) 354-6278

Donald Savage (202) 358-1727
NASA Headquarters, Washington, D.C.

2003-095

Mars Exploration Program

SIGNIFICANT ACCOMPLISHMENTS & ISSUES

OSS Monthly Flight Program Review 7/29/03

Significant Accomplishments

- **MGS** Restored nominal operations following C-mode entry June 11. Conducted UHF relay test with Stanford July 1-3. RS Egress occultations July 11 (8 egresses). Nearing completion of single gyro attitude determination capability.
- **Odyssey** Operations nominal. Science mission 55% complete. 6120 mapping orbits to date. UHF relay planning efforts ongoing. Began surface operational readiness test activity with MER. UHF relay test with Stanford July 2-3. Delivered MER UHF transceiver to LMA in Denver July 7.
- **MER** Spirit and Opportunity successfully launched within planned launch window; successful trajectory correction maneuvers; spacecraft in good health. GEM delamination issue retired. Cork insulation adhesion issue resolved. Landing remains on target for Jan 3 and Jan 24, 2004 (EDT).
- **MEX** Successful launch June 2; clamps successfully released on Beagle 2 lander.
- **MRO** **Completed CDR at the end of May within budget, sufficient reserves, and on schedule at a maturity level higher than most projects.** All project margins and reserves are positive and almost all are above JPL Design Principles.
- **Scout** Site visits and TMCO plenary completed.
- **MSL** Pre-Phase A: Completed description document, WBS, WBS dictionary, level 1, 2 and 3 schedules, briefing divisions, Q & A sessions budget, server and templates

STEREO Critical Milestone Schedule

Completion of Critical Design Review (CDR), February 2003

OSS Monthly Flight Program Review 4/22/03

Status 3/14/03

	EVENT		2003											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5	PLASTIC - Decide on IDEAS VLSI Run II	1/13	▼											
6	SECCHI - FPA (EUVI) Flight Drawings Released	1/16	▼											
7	IMPACT - IPDU-ETU LVPS Available		2/5	▼	2/10									
8	Mission CDR		2/18	▼	2/20									
9	SC - Begin Structure Panel Fabrication		2/27	▼	3/7									
10	SECCHI - Complete SEB EDM EMI Test		2/28	▼	3/7									
11	SECCHI - COR2 Flight Drawing Release		2/28	▼										
12	SC - Command Decoder EB Test Complete		3/3	▼	3/27	3/28								
13	SC - 1553 EB Test Complete		3/3	▼	3/27	3/28								
14	SC - Release Center Structure for Fabrication		3/13	▼	4/11	5/2								
15	SECCHI - SEB Flight Board Fabrication													
16	SC - Complete Center Structure Fabrication					5/29	▼	6/17	7/7					
17	SWAVES - Assemble Full EM (Except for Depl. Units)					6/13	▼	6/18						
18	SC - Complete Structure Panel Fabrication					6/20	▼							
19	IMPACT - Protoflight Boom Complete							7/16	▼					
20	SC - Complete Assy of Flight H/W (Primary Structure)							8/4	▼					
21	SC - Complete Static Load Testing							8/27	▼					
22	SC - Deliver Structure to Propulsion Vendor							9/3	▼					
23	SECCHI - Complete MEB FM-A Testing									10/21	▼			
24	SC - Complete Acceptance Test of Propulsion Subsystem										11/11	▼		
25	PLASTIC - Begin EM ESA & PLASTIC Set-Up, Test & Cal.							7/1	▼					
26	SECCHI - Complete SEB FM-B Integration												12/23	▼

12 Drafting effort delayed due to conflict with MESSENGER Program. Drafting effort completed 1/20/03. Board assembly completed 3/5/03. Problems encountered during Board test required addition of external circuits to Actels.

13 Drafting effort delayed similar to item 12 above. Board assembly completed 3/3/03. Board testing completed on or about 08 April 2003.

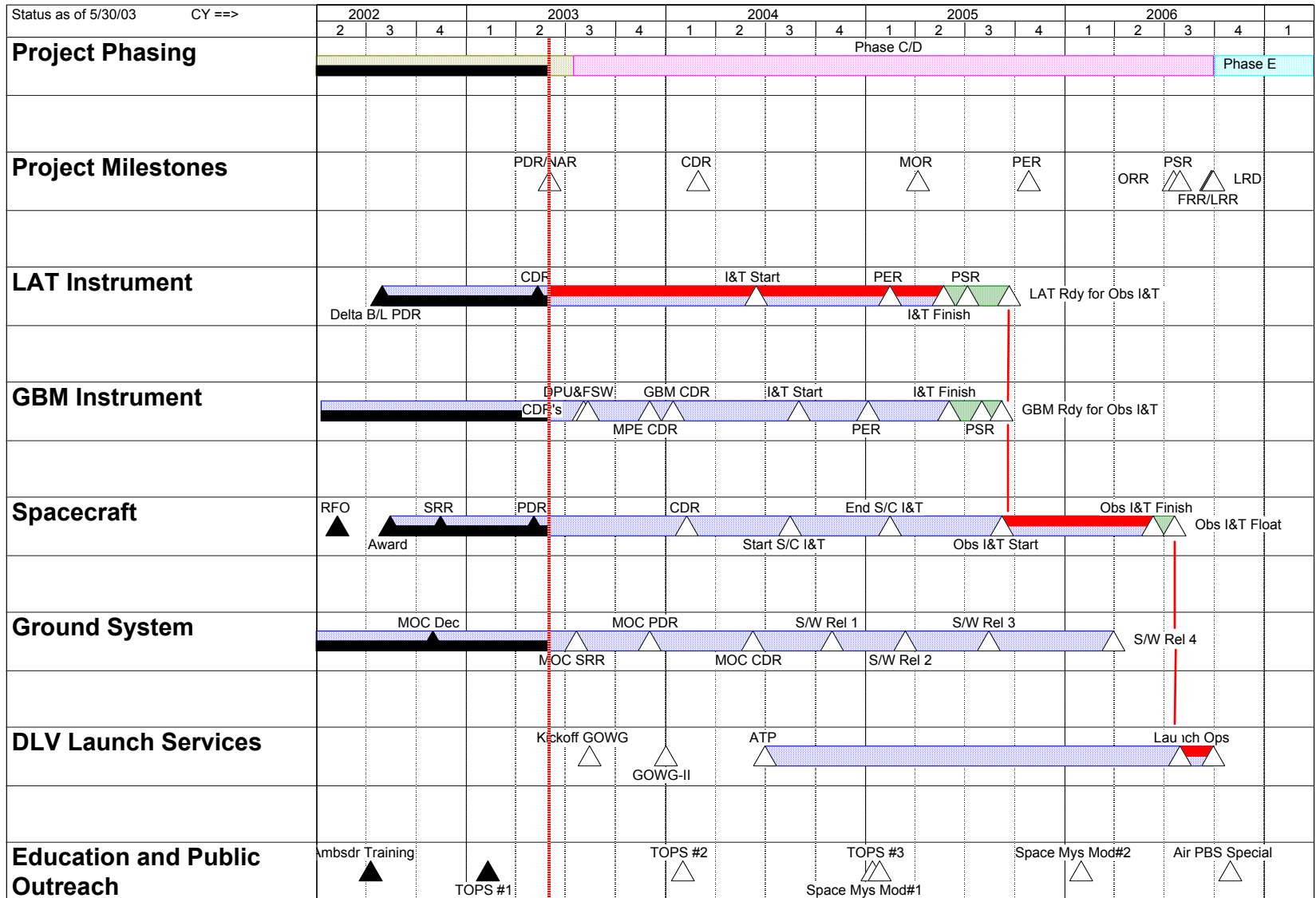
14 & 16 Delay attributed to late receipt of raw material by forging vendor. Raw material was received on 3/21/03 and forging fabrication has begun.

17 6/13/03 completion date is a transposition error (typo error).

25 & 26 New Milestones.

GLAST MASTER SCHEDULE

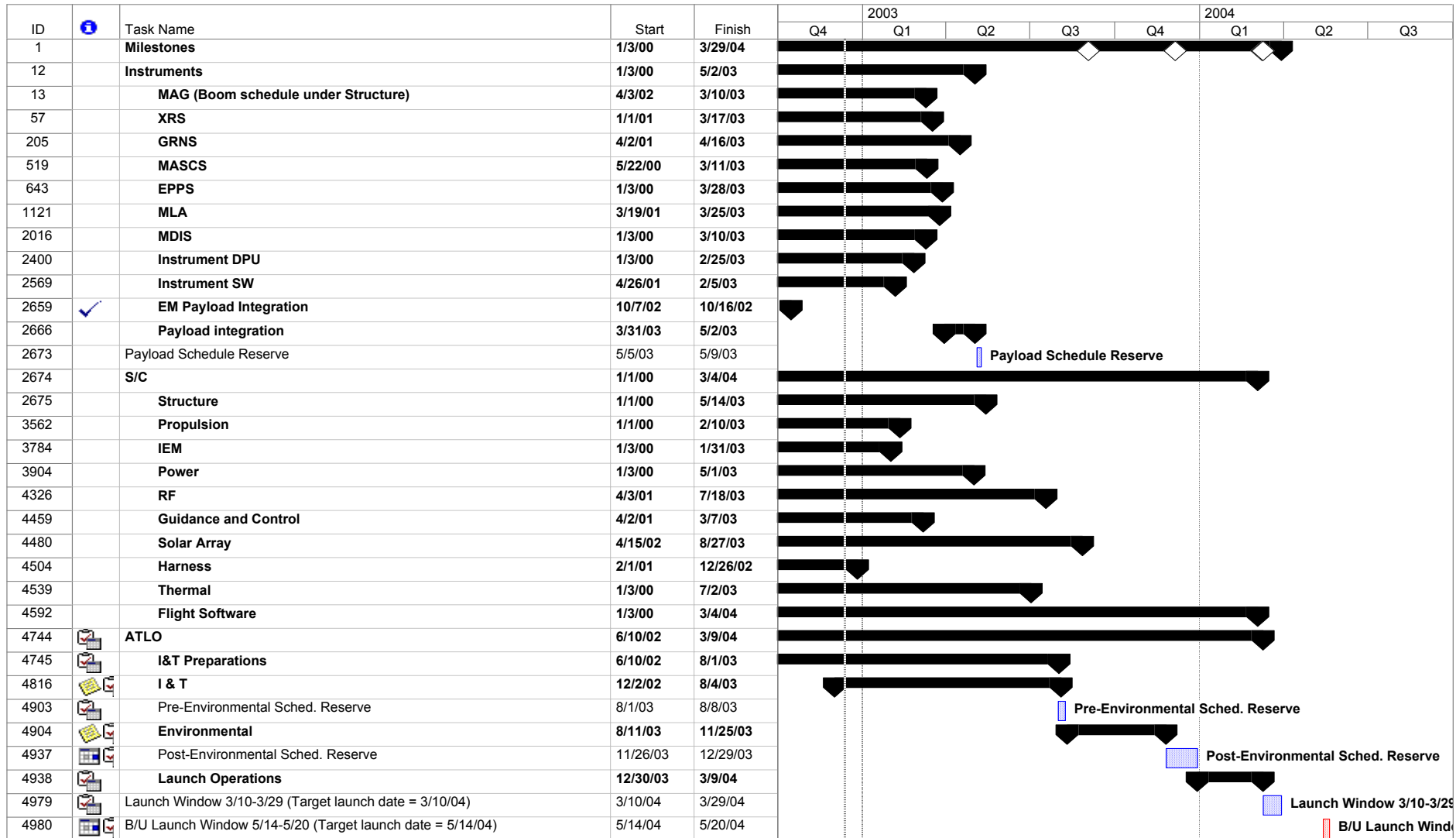
Completion of LAT Instrument Critical Design Review (CDR), 2nd Qtr. FY03
OSS Monthly Flight Program Review 6/29/03



MESSENGER Master Schedule

Spacecraft Integration & Test (ATLO/I&T) Initiated 12/02

OSS Monthly Flight Program Review 3/27/03



CINDI CRITICAL MILESTONE CHART

Completion and Delivery of Payload, April 2003

OSS Monthly Flight Program Review 5/29/03

April 2003

	Critical Milestone	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan4	Feb
1.	CINDI-C/NOFS instruments complete flat sat I & T at Kirtland AFB	▼											
2.	C/NOFS Payload delivered to Spectrum Astro		▼										
3.	Complete C/NOFS I&T at Spectrum Astro					▽							
4.	C/NOFS Observatory delivered to GSFC for Environmental testing.					▽							
5.	Complete Environmental testing at GSFC							▽					
6.	CINDI Instruments MRR										▽		

Explanation of Missed Milestones

Deep Impact

Accomplishments for Current Period OSS Monthly Flight Program Review 9/25/03

Flyby Spacecraft:

- Completed closed loop Attitude Determination and Control Subsystem testing.
- Integrated flight Spacecraft Control Units (SCU's) A and B (with engineering model Rad750's).
- Completed Command and Data Handling performance testing.
- Completed High Gain Antenna Gimbal, Instrument, Electrical Power and Distribution, Attitude Determination and Control (without SIRU), Thermal Control, Telecom, and Propulsion subsystem functional testing.

Impactor Spacecraft:

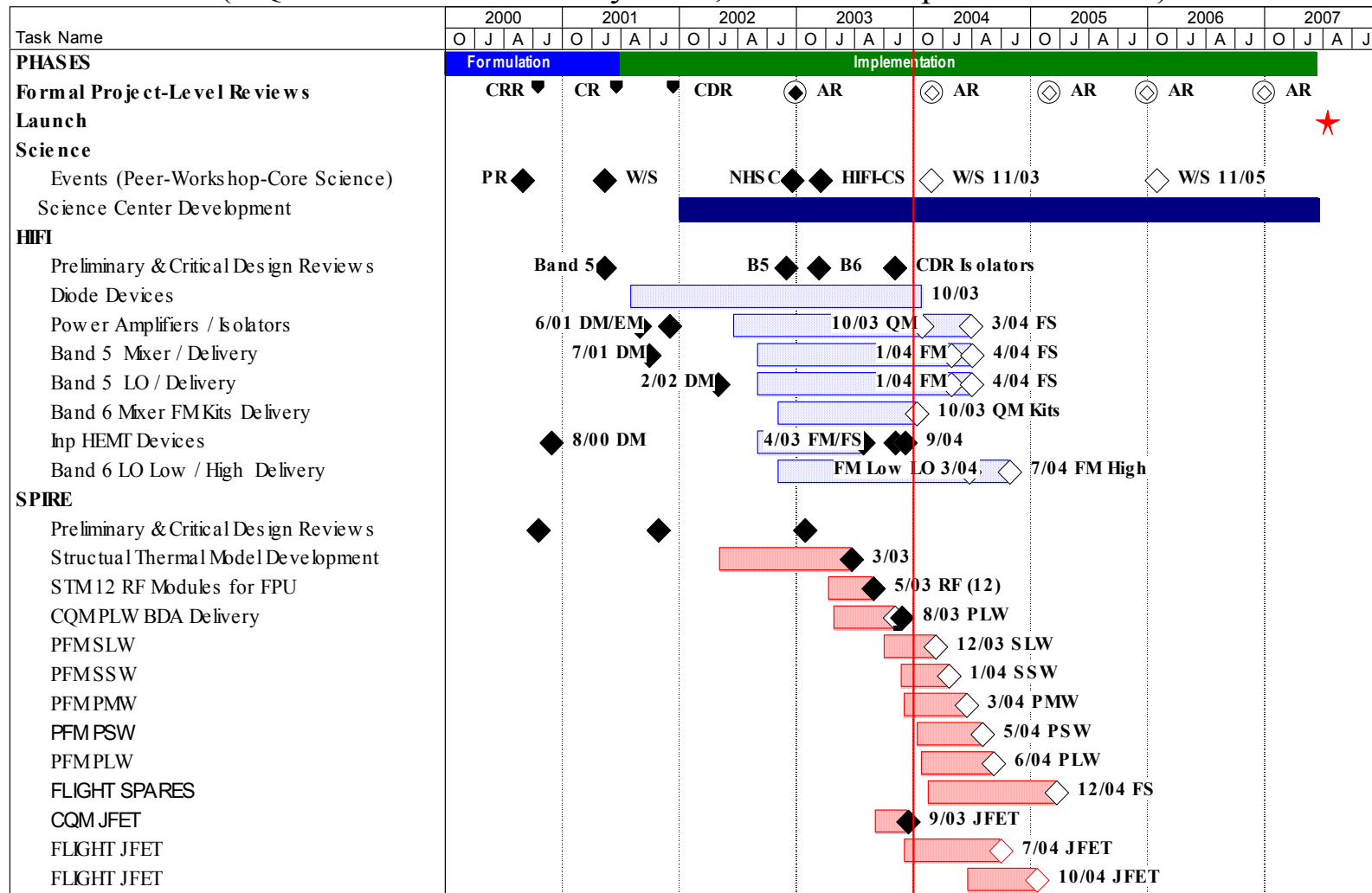
- Completed Attitude Determination and Control Subsystem and Command and Data Handling subsystem functional testing.
- Integrated the flight Space Inertial Reference Unit

Project:

- **The Delivery/System Test Readiness Review was conducted 8/14-15 at BATC.**
- Initiated the Mission System Test phase of the project with the successful run of the Launch Mission System Test on 8/21.

Note: The terms “Delivery/System Test Readiness” and “Integration and Test Readiness” signify the same review

Completion of SPIRE Qualification Model Detectors
(CQM PLW BDA Delivery: 8/03; Formal Completion: 9/15/03)



Herschel SPIRE BDA

Fully assembled
Cryogenic Qualification
Model (CQM)
Photometric Long Wave
(PLW) Bolometer
Detector Module (BDA)



NASA Approves James Webb Space Telescope Mirror Architecture

September 10, 2003

NASA today announced a major milestone in the development of the James Webb Space Telescope (JWST), the selection of a beryllium-based mirror technology for the telescope's 6.5-meter primary mirror.

The JWST prime contractor, Northrop Grumman, Redondo Beach, Calif., recommended that NASA select the mirror technology, supplied by Ball Aerospace & Technologies Corporation, Boulder, Colo., for the JWST primary mirror.

Northrop Grumman made the recommendation following a detailed process that took advantage of insights from a panel of experts representing the contractor team, NASA and the science community. Two mirror technologies, beryllium and ultra low-expansion glass, were tested, and their implementation plans were thoroughly reviewed during a six-month evaluation. Technical performance, manufacturing schedule, facilities, staffing, and cost were factors taken into consideration.

The production of the beryllium-based mirrors will begin within the next year. The mirrors will be incorporated into optical assemblies, mounted on the telescope structure, and subjected to a series of tests at cryogenic temperatures, individually and as an integrated system.

The Observatory design features a 6.5-meter aperture primary mirror, comprised of 18 hexagonal shaped segments. The telescope will be 2.5 times the diameter, yet weigh only one-third as much, as the mirror on the Hubble Space Telescope. JWST will be orders of magnitude more sensitive than ground-based infrared telescopes.

After launch in 2011, JWST will peer into the infrared at great distances to see the first stars and galaxies formed in the universe billions of years ago. A flagship mission in NASA's Origins Program, JWST will search for answers to astronomers' fundamental questions about the birth and evolution of galaxies, the size and shape of the universe, and the mysterious life cycle of matter.

NASA's Goddard Space Flight Center, Greenbelt, Md., manages the JWST project for NASA Headquarters' Office of Space Science, Washington. The project consists of an international team involving NASA, the European Space Agency, Canadian Space Agency, industry and academia.

Northrop Grumman is prime contractor leading a team including Ball Aerospace, Eastman Kodak Company, Rochester, N.Y.; and Alliant Techsystems, Magna, Utah. The major beryllium mirror subcontractors to Ball Aerospace are Tinsley Laboratories, Richmond, Calif.; Axsys Technologies, Cullman, Ala.; and Brush Wellman Inc., Elmore, Ohio.

Donald Savage
Headquarters, Washington
(Phone: 202/358-1547)
CONTRACT RELEASE : c03-dd

NOTE: The JWST was formerly known as the Next Generation Space Telescope (NGST)

Deep Space Avionics Project

Major Milestones

Completion of X-2000 Phase I Hardware/Space Flight Computer (SFC) 3rd Quarter, FY03
Monthly Management Review, July 25, 2003

	<i>FY 03 Q3</i>	<i>FY 03 Q4</i>	<i>FY 04 Q1</i>	<i>FY 04 Q2</i>
<i>SIO</i>	<i>DIO POD (Complete)</i>	SIO Test board (8/1/03)	MSIO POD Pass 1.1 (10/30/03) SIO EM1 (12/1/03) SIO EM 2/3 (1/15/04)	
<i>SIA</i>	SIA PT to I&T (7/16/03)	SIA peer review (9/15/03)		
<i>PSS/PC</i> <i>S</i>		SCA POD (8/15/03)	PASM FAB (11/14/03) SCA KGD to LM (10/9/03) AIA POD (10/14/03)	CIA POD (2/19/04)
<i>DCS</i>		DCS 3.3V BB(2) (8/14/03) DCS 5V BB (9/3/03)		
<i>SFC</i>	<i>SFC FM3/FM4 (completed)</i>	<i>SFC FM1/FM2 (completed)</i> SFC Enhanced PT 1 (7/30/03)	SFC Enhanced PT 1-4 (10/31/03) SFC Enhanced EM1&2 (12/15/03) <i>SFC FM5/FM6 to MRO (pending MRO Decision)</i>	

NASA Selects In-Space Propulsion Innovations For Research

May 16, 2003

- NASA has selected 15 industry, government and academic organizations to pursue 22 innovative propulsion technology research proposals that could revolutionize exploration and scientific study of the solar system.

Total value of the work to be done over a three-year period is approximately \$20 million, with \$9.6 million in fiscal year 2003; \$10.2 million in fiscal year 2004; and \$0.6 million in fiscal year 2005. The research will be conducted in five, in-space propulsion technology areas: aerocapture; advanced chemical propulsion; solar electric propulsion; space-based tether propulsion; and solar sail technologies.

Each technology identified for development is part of the In-Space Propulsion (ISP) Program, managed in the Office of Space Sciences, NASA Headquarters. The awards are being made as part of the In-Space Propulsion Technologies "Cycle 2" amendment to NASA Research Announcement 02-OSS-01.

"We want to increase the frequency, speed, and return on our missions and enable whole new missions that are impossible or impractical with today's propulsion technologies," said Dr. Colleen Hartman, director of the Solar System Exploration Division, NASA Headquarters.

"This round of selections further broadens NASA's investment portfolio for in-space propulsion technologies," said Paul Wercinski, ISP Program Executive, Office of Space Science, NASA Headquarters. "We are excited to see these technologies eventually fly on future science missions."

"Our goal is to develop technologies that will make deep-space exploration more practical, more affordable, and more productive," said Les Johnson, In-Space Transportation manager at the NASA's Marshall Space Flight Center (MSFC), Huntsville, Ala.

Contract awards:

Aerocapture Technology: Ball Aerospace, Boulder, Colo., Lockheed Martin, Denver

Advanced Chemical Propulsion: TRW Space & Electronics, Redondo Beach, Calif., NASA Jet Propulsion Laboratory, Pasadena, Calif. (three awards)
VACCO Industries, Inc., El Monte, Calif.

Kilowatt Solar Electric Propulsion System: NASA Glenn Research Center, Cleveland, Busek Co. Inc., Natick, Mass.

Momentum-eXchange/Electrodynamic Reboost (MXER) Tether Technology: Tethers Unlimited, Inc., Lynnwood, Wash. (two awards), Smithsonian Astrophysical Observatory, Cambridge, Mass., Tennessee Technological University, Cookeville, Tenn., Lockheed Martin, Denver (two awards)

Solar Sails: NASA Langley Research Center, Hampton, Va. (two awards), NASA Jet Propulsion Laboratory, Pasadena, Calif., Arizona State University, Tempe, Ariz., NASA Marshall Space Flight Center, Huntsville, Ala., U.S. Naval Research Laboratory, Washington
SRS Technologies, Huntsville, Ala.

- The ISP Program is managed by the Office of Space Science, NASA Headquarters, and is implemented by MSFC. The ISP Program is supported by NASA's Ames Research Center, Calif.; Glenn Research Center, Cleveland; Jet Propulsion Laboratory, Pasadena, Calif.; Johnson Space Center, Houston; Langley Research Center, Hampton, Va. NASA's partners in meeting the ambitious in-space propulsion goals include industry, the nation's academic institutions and other government agencies.
- Donald Savage
Headquarters, Washington
(Phone: 202/358-1727)

CONTRACT RELEASE : C03-q

NASA's First Scout Mission Selected for 2007 Mars Launch

August 04, 2003

- In May 2008, the progeny of two promising U.S. missions to Mars will deploy a lander to the water-ice-rich northern polar region, dig with a robotic arm into arctic terrain for clues on the history of water, and search for environments suitable for microbes.
- NASA today announced that it has selected the University of Arizona "Phoenix" mission for launch in 2007 as what is hoped will be the first in a new line of smaller competed "Scout" missions in the agency's Mars Exploration Program.
- Dr. Peter H. Smith of the University of Arizona Lunar and Planetary Laboratory heads the Phoenix mission, named for the mythological bird that is repeatedly reborn of ashes. The \$325 million NASA award is more than six times larger than any other single research grant in University of Arizona history.
- "The selection of Phoenix completes almost two years of intense competition with other institutions," Smith said. "I am overjoyed that we can now begin the real work that will lead to a successful mission to Mars."
- Phoenix is a partnership of universities, NASA centers, and the aerospace industry. The science instruments and operations will be a University of Arizona responsibility. NASA's Jet Propulsion Laboratory in Pasadena, Calif., will manage the project and provide mission design. Lockheed Martin Space Systems, Denver, will build and test the spacecraft. Canadian partners will provide the meteorological instrumentation, including an innovative laser-based sensor.
- Phoenix has the scientific capability "to change our thinking about the origins of life on other worlds," Smith said. "Even though the northern plains are thought to be too cold now for water to exist as a liquid, periodic variations in the martian orbit allow a warmer climate to develop every 50,000 years. During these periods the ice can melt, dormant organisms could come back to life, (if there are indeed any), and evolution can proceed. Our mission will verify whether the northern plains are indeed a last viable habitat on Mars."
- The lander for Phoenix was built and was being tested to fly as part of the 2001 Mars Surveyor Program, but the program was canceled after the Mars Polar Lander was lost upon landing near Mars' south pole in December 1999. Since then, the 2001 lander has been stored in a clean room at Lockheed Martin in Denver, managed by NASA's new Mars Exploration Program as a flight asset.
- Renamed Phoenix, it will carry improved versions of University of Arizona panoramic cameras and volatiles-analysis instrument from the ill-fated Mars Polar Lander, as well as experiments that had been built for the 2001 Mars Surveyor Program, including a JPL trench-digging robot arm and a chemistry-microscopy instrument. The science payload also includes a descent imager and a suite of meteorological instruments.
- The mission has two goals. One is to study the geologic history of water, the key to unlocking the story of past climate change. Two is to search for evidence of a habitable zone that may exist in the ice-soil boundary, the "biological paydirt."
- The Phoenix robotic arm will scoop up martian soil samples and deliver them for heating into tiny ovens of the volatiles-analysis instrument so team members can measure how much water vapor and carbon dioxide gas are given off, how much water ice the samples contain, and what minerals are present that may have formed during a wetter, warmer past climate. The instrument, called thermal evolved gas analyzer, will also measure any organic volatiles.
- Using another instrument, researchers will examine soil particles as small as 16 microns across. They will measure electrical and thermal conductivity of soil particles using a probe on the robotic arm scoop. One of the most interesting experiments is the wet chemistry laboratory, Smith said.
- "We plan to scoop up some soil, put it in a cell, add water, shake it up, and measure the impurities dissolved in the water that have leached out from the soil. This is important, because if the soil ever gets wet, we'll know if microbes could survive. We'll know if the wet soil is super acidic or alkaline and salty, or full of oxidants that can destroy life. We'll test the environment that microbes might have had to live and grow in," Smith said.
- Information is available online about NASA's Mars exploration at <http://mars.jpl.nasa.gov> and about Phoenix at <http://phoenix.jpl.arizona.edu>.
- JPL, a division of the California Institute of Technology, Pasadena, manages the Mars Scout Program for the NASA Office of Space Science, Washington, D.C.
- Guy Webster (818) 354-6278
Jet Propulsion Laboratory, Pasadena, Calif.
- Lori Stiles (520) 621-1877
University of Arizona, Tucson
- Donald Savage (202) 358-1727
NASA Headquarters, Washington, D.C.
- NEWS RELEASE: 2003-107

NASA Selects Two Magnetospheric Multiscale Mission Proposals For Feasibility Studies

September 26, 2003

- In the first step of a two-step process, NASA has selected two teams to conduct concept studies for the Magnetospheric Multiscale (MMS) Mission, the fourth investigation in NASA's Solar Terrestrial Probe mission line.

The proposals selected for further study address the scientific objective of the MMS mission, to explore and understand fundamental plasma-physics processes of magnetic reconnection, particle acceleration and turbulence in the Earth's magnetosphere. These three processes, which control the flow of energy, mass and momentum, within and across magnetospheric boundaries, occur throughout the universe and are fundamental to our understanding of astrophysical and solar system plasmas.

The selected proposals that will provide instrument suites dedicated to the pursuit of the MMS science objectives are:

- "An Instrument Suite for the Magnetospheric Multi-Scale Mission," led by Dr. James P. McFadden of the University of California at Berkeley; and
- "Solving Magnetospheric Acceleration, Reconnection, and Turbulence," led by Dr. James L. Burch of Southwest Research Institute, San Antonio.

"The Magnetospheric Multiscale Mission will help us understand the fundamental physical processes responsible for transfer of energy from the solar wind to the Earth's magnetosphere," said Dick Fisher, Director of the Sun-Earth Connection Division in NASA's Office of Space Science, Washington.

"What we learn from MMS will have application far beyond the Earth, because the Earth's magnetosphere provides the only laboratory in which fundamental astrophysical plasma processes are readily accessible for sustained study. MMS results will directly contribute to NASA's mission to advance our scientific knowledge and understanding of Earth, the solar system and the universe," Fisher explained.

The selected proposals, which were submitted to NASA in March 2003 in response to the Magnetospheric Multiscale Mission Announcement of Opportunity, were both judged to have high scientific and technical merit. Each will receive \$1 million to conduct a six-month implementation-feasibility study focused on cost, management and technical plans, including educational outreach and small business involvement.

The Solar Terrestrial Probe (STP) Program is a sequence of community-defined strategic projects that provide in-situ and remote sensing observations, from multiple platforms, for sustained study of the Sun-Earth system. The first STP, the Thermosphere-Ionosphere-Mesosphere Energetics and Dynamics mission was launched December 7, 2001. The next two missions in the STP program, Solar-B and the Solar Terrestrial Relations Observatory, are scheduled for launch in 2006 and 2005 respectively.

The STP Program is managed by NASA's Goddard Space Flight Center, Greenbelt, Md., for the Sun-Earth Connection Division of the Office of Space Science, Washington.

- Dwayne Brown
Headquarters, Washington
(Phone: 202/358-1726)

Nancy Neal
Goddard Space Flight Center, Greenbelt, Md.
(Phone: 301/286-0039)

RELEASE : 03-307

Solar Dynamics Observatory (SDO)

Critical Milestones

Status as of 10/16/03

	Critical Milestone	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1.	Initial Confirmation Review		8/27	9/3									
2.	HMI & EVE Instrument B/C/D/E Contracts in place			9/30	Phase A/Bridge extension			1	1/15				
3.	AIA Instr. Phase A/B Contract in place. Definitize within 120 days; Phase C/D/E contract after CR.			Letter Contract	10/17								
4.	HMI & EVE Instr. Peer Reviews & PDRs complete				10/24	1	3	2	12/15				
5.	AIA Peer Reviews & PDR												
6.	S/C Subsys. Peer Reviews & PDRs complete						12/19						
7.	Mission Preliminary Design Review					1	12/2		2	mid Feb.			
8.	Confirmation Review								3/1			1	mid May

Explanation of Missed Milestones:

2. Slip/change due to late ICR & additional time required for developing contracts. HMI & EVE contracts have been extended with early Phase B scope which allows more time to develop the remaining B +C/D/E contracts. This has been worked with GSFC Contracts & SDO PIs.
4. Able to complete HMI & EVE PDRs early, helps with scheduling subsystem Peer/PDRs.
- 7,8. PDR & CR date changes part of planning adjustments for 4/08 launch. Working PDR & CR dates with new AIA.

LISA CRITICAL MILESTONE CHART

Completion of Initial Phase A Study (TRIP Report)

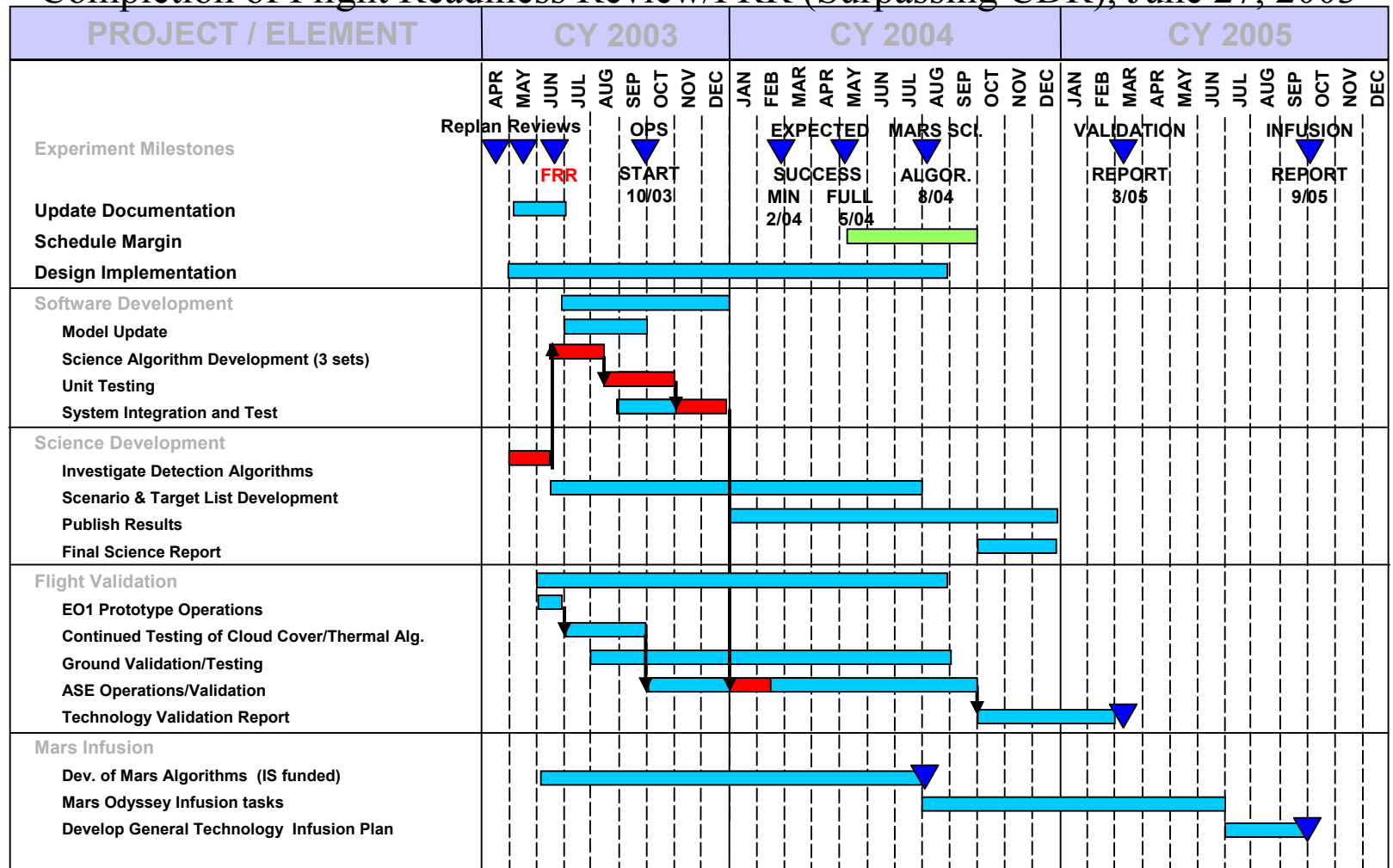
OSS Monthly Flight Program Review 8/26/03


	Critical Milestone	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1.	TRIP Report		▼										
2.	Technology Plan Update			▼									
3.	TRIP Site Visit			▼									
4.	SE&I Pre Proposal Conf				▼								
5.	Science Req. Update				▼								
6.	Mission Req. Doc					▽	-----	▽					
7.	Tech Development Review					▼							
8.	FAD signed							▽					
9.	SE&I RFP released								▽				
10.	SEMP Update										▽		

Explanation of Missed Milestones:

New Millennium Program ST-6 ASE Schedule

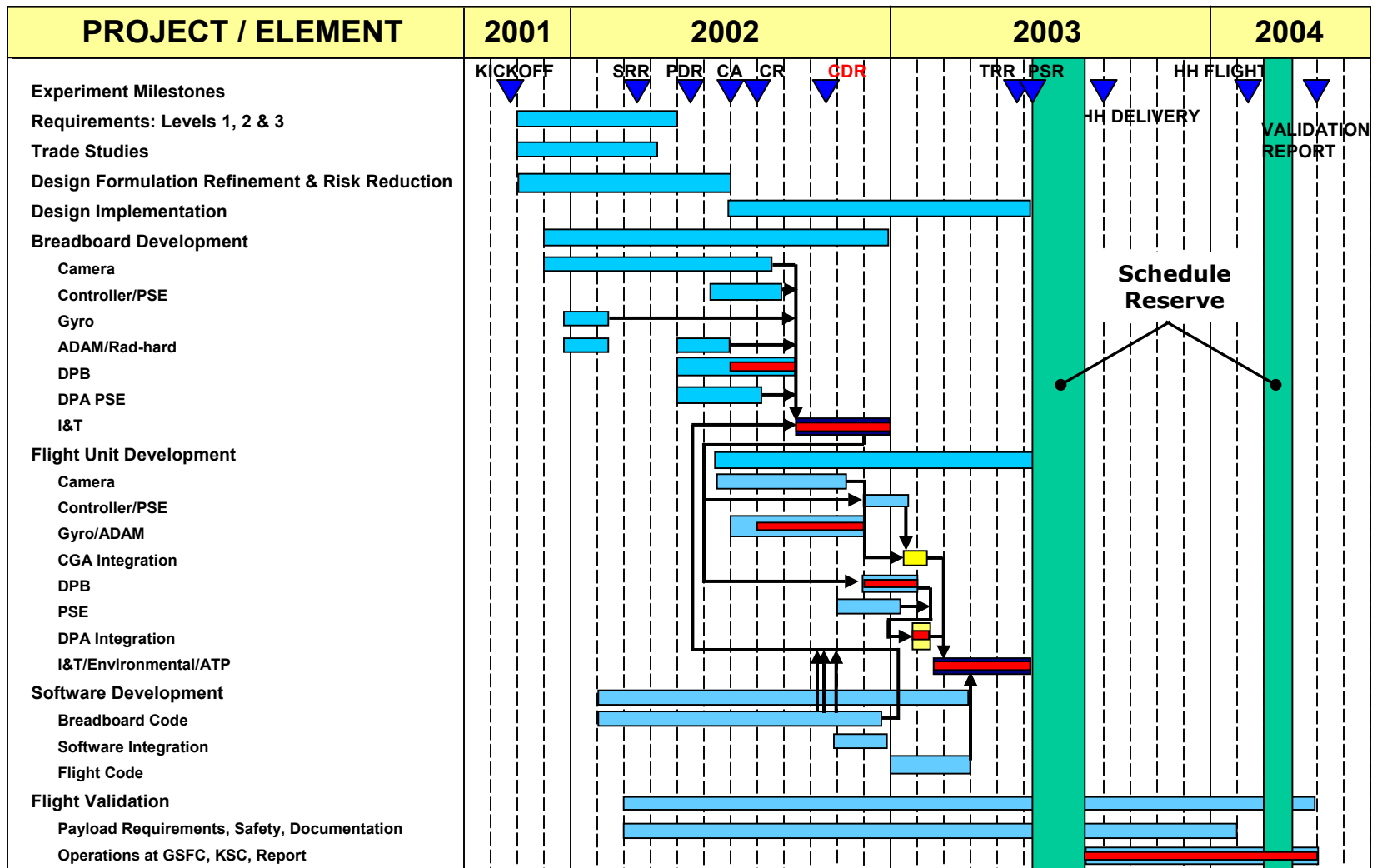
Completion of Flight Readiness Review/FRR (Surpassing CDR), June 27, 2003



 Schedule Critical Path (ends with minimum success)

New Millennium Program

Completion of ST-6 Inertial Stellar Compass Critical Design Review (CDR) 10/30/02
GPMC Review 12/19/02



Schedule Critical Path

New Millennium Program 6-Month Summary Schedule

Completion of ST-7 Confirmation Review (CR), 7/15/03

OSS Monthly Flight Program Review 7/29/03

[illegible]